

IN THE CLAIMS:

1. (Currently amended) A method for user equipments (UE) mobility management in a mobile communication system, wherein said mobile communication system comprises; a core network, one or more universal terrestrial radio access networks (UTRAN) and a plurality of user equipments (UE), wherein the core network communicates with the UTRAN via an Iu interface; said UTRAN consists of a plurality of radio network systems (RNS) and communicates with one or more UEs via a Uu interface, each said RNS comprising a radio network controller (RNC) and one or more nodes communicating with said RNC through an Iub interface, each node comprising one or more cells, and the communication between RNCs being performed via an Iur interface; the UTRAN controls the UE mobility management through a radio resource control (RRC) signaling of the Uu interface; said method comprising the steps of:

the UE transmitting uplink an RRC signaling message to a first RNC so as to request UE mobility management;

determining whether there exists Iur transport link between said first RNC and said second RNC;

said first RNC receiving and forwarding to the core network said uplink RRC signaling message;

the core network forwarding transparently to a second RNC said uplink RRC signaling message; and

the second RNC receiving and utilizing the forwarded uplink RRC signaling message to perform the requested mobility management.

2. (Cancelled).

3. (Previously presented) The method according to claim 1, characterized in that said first RNC is a destination RNC communicating with said UE; said second RNC is a serving RNC for controlling said UE and causing said UE to communicate with the core network.

4. (Previously presented) The method according to claim 1, characterized in that in the step in which said first RNC forwards to the core network said uplink RRC signaling message, said uplink RRC signaling message as an RANAP signaling message is transmitted from said first RNC to said core network via the Iu interface, wherein said RANAP signaling message includes Message Type, Source ID, Target ID and RRC information relevant to the mobility management requested by the UE.

5. (Previously presented) A method according to claim 4, characterized in that in said RANAP signaling message transmitted from the first RNC to the core network, Source ID identifies the second RNC, Target ID identifies the first RNC, and RRC information relevant to the mobility management requested by the UE is defined as cell update message or URA update message.

6. (Previously presented) The method according to claim 1, characterized in that in the step in which the UE transmits uplink the RRC signaling message to the first RNC, said UE transmits via a Common Control Channel (CCCH) an RRC signaling message for requesting cell update.

7. (Previously presented) The method according to claim 1, characterized in that in the step in which the UE transmits uplink the RRC signaling message to the first RNC, said UE transmits via the Common Control Channel (CCCH) an RRC signaling message for requesting URA update.

8. (Currently amended) A mobile communication system for user equipments (UEs) mobility management, wherein said mobile communication system comprises; a core network, one or more universal terrestrial radio access networks (UTRANS) and a plurality of user equipments (UEs), wherein the core network communicates with the UTRAN via an Iu interface; said UTRAN consists of a plurality of radio network systems (RNSs) and communicates with one or more UEs via a Uu interface, each said RNS comprising a radio network controller (RNC) and one or more nodes communicating with said RNC through an Iub interface, each node comprising one or more cells, and the communication between RNCs being performed via an Iur interface; the UTRAN controls the UE mobility management through a radio resource control (RRC) signaling of the Uu interface; and wherein:

the UE comprises means for transmitting uplink the RRC signaling message to a first RNC so as to request the UE mobility management and means for determining whether there exists Iur transport link between said first RNC and said second RNC;

said first RNC comprises means for receiving from said UE and forwarding to the core network said uplink RRC signaling message;

the core network comprises means for forwarding transparently to a second RNC said uplink RRC signaling message; and

the second RNC comprises means for receiving and utilizing the forwarded uplink RRC signaling message to perform the requested mobility management.

9. (Cancelled).

10. (Currently amended) The system according to claim 7 ~~8~~, characterized in that said first RNC is a destination RNC communicating with said UE; said second RNC is a serving RNC for controlling said UE and causing said UE to communicate with the core network.

11. (Currently amended) The system according to claim 7 ~~8~~, characterized in that said first RNC forwards via the Iu interface to the core network said uplink RRC signaling message as an RANAP signaling message, wherein said RANAP signaling message includes Message Type, Source ID, Target ID and RRC information relevant to the mobility management requested by the UE.

12. (Previously presented) The system according to claim 11, characterized in that in said RANAP signaling message forwarded by the first RNC to the core network, Source ID identifies the second RNC, Target ID identified the first RNC, and RRC information relevant to the mobility management requested by the UE is defined as cell update message or URA update message.

13. (Currently amended) The system according to claim 7 ~~8~~, characterized in that the UE transmitting uplink the RRC signaling message to the first RNC includes said UE transmitting uplink via a Common Control Channel an RRC signaling message for requesting cell update.

14. (Currently amended) The system according to claim 7 ~~8~~, characterized in that the UE transmitting uplink the RRC signaling message to the first RNC includes said UE transmitting uplink via the Common Control Channel an RRC signaling message for requesting URA update.

15-20. (Cancelled).